Amendments to the Claims:

Please add claims 49-56. Following is a complete listing of the claims pending in the application, as amended:

1. (Previously Presented) A method of processing a microfeature workpiece, comprising:

supporting a microfeature workpiece by an unheated support in an interior of a processing chamber having a polymeric wall;

contacting a surface of the microfeature workpiece with an etchant liquid, the polymeric wall of the processing chamber being substantially non-reactive with the etchant liquid;

heating the etchant liquid by delivering radiation from a radiation source through the polymeric wall of the processing chamber to heat the etchant liquid, the polymeric wall being more transmissive of an operative wavelength range of the radiation than the etchant liquid, thereby a temperature of the etchant liquid is increased more rapidly than a temperature of the polymeric wall;

controlling the radiation source to maintain a temperature of the etchant liquid at or above a target process temperature to etch the surface of the microfeature workpiece; and

removing the etched microfeature workpiece from the processing chamber.

2. (Original) The method of claim 1 further comprising adding the etchant liquid to the processing space at a first temperature that is below the target process temperature.

3. (Original) The method of claim 1 wherein the radiation is delivered substantially uniformly across the surface of the microfeature workpiece.

4. (Original) The method of claim 1 wherein the radiation comprises infrared radiation.

5. (Original) The method of claim 1 further comprising enclosing the microfeature workpiece within the interior of the processing chamber.

6. (Original) The method of claim 1 wherein a temperature of the wall of the processing chamber is no greater than the temperature of the etchant liquid when the etchant liquid is at or above the target process temperature.

7. (Original) The method of claim 6 wherein the processing chamber includes a base, a temperature of the base of the processing chamber being no greater than the temperature of the etchant liquid when the etchant liquid is at or above the target process temperature.

8. (Original) The method of claim 1 wherein the radiation is substantially the only heat source for heating the etchant liquid from a first temperature to the target process temperature, which is higher than the first temperature.

9. (Original) The method of claim 1 wherein an inner surface of the processing chamber comprises a fluoropolymer, further comprising contacting the inner surface of the processing chamber with the etchant liquid.

10. (Original) The method of claim 1 wherein etching the surface of the microfeature workpiece yields a resultant etchant, the method further comprising determining at least one chemical property of the microfeature workpiece by chemically analyzing the resultant etchant.

11. (Previously Presented) A method of processing a microfeature workpiece comprising:

positioning a microfeature workpiece on an unheated support in an interior of a processing chamber, the processing chamber having a polymeric wall with an inner surface;

enclosing the microfeature workpiece within the interior of the processing chamber;

contacting a surface of the microfeature workpiece with an etchant liquid at a first temperature, the etchant liquid being substantially non-reactive with the inner surface of the processing chamber;

heating the etchant liquid from the first temperature to a second temperature using an infrared heat source positioned entirely outside the enclosed processing chamber and through the polymeric wall, the second temperature being higher than the first temperature and the second temperature promoting etching of a surface of the microfeature workpiece, the etchant liquid being more absorptive of radiation from the infrared heat source than the polymeric wall, thereby the etchant liquid is heated more rapidly than the polymeric wall of the processing chamber; and

etching the surface of the microfeature workpiece with the etchant liquid at or above the second temperature.

12. (Original) The method of claim 11 wherein the radiation is delivered substantially uniformly across the surface of the microfeature workpiece.

13. (Original) The method of claim 11 wherein the infrared radiation comprises near infrared radiation.

14. (Original) The method of claim 11 wherein a temperature of the wall of the processing chamber is no greater than the temperature of the etchant liquid when the etchant liquid is at or above the second temperature.

15. (Original) The method of claim 14 wherein the processing chamber includes a base, a temperature of the base of the processing chamber being no greater than the temperature of the etchant liquid when the etchant liquid is at or above the second temperature.

16. (Original) The method of claim 11 wherein the infrared radiation is substantially the only heat source for heating the etchant liquid from the first temperature to the second temperature.

17. (Original) The method of claim 11 wherein the inner surface of the processing chamber comprises a fluoropolymer, further comprising contacting the inner surface of the processing chamber with the etchant liquid.

18. (Original) The method of claim 11 wherein etching the surface of the microfeature workpiece yields a resultant etchant, the method further comprising determining at least one chemical property of the microfeature workpiece by chemically analyzing the resultant etchant.

19. (Previously Presented) A method of processing a microfeature workpiece, comprising:

supporting a microfeature workpiece with an unheated support in an interior of a processing chamber having a polymeric wall;

contacting a surface of the microfeature workpiece with a processing fluid;

delivering infrared radiation through the polymeric wall of the processing chamber to heat the processing fluid from a first temperature to a higher second temperature that promotes processing of the surface of the microfeature workpiece, the polymeric wall being more infrared transparent than the processing fluid, thereby the processing fluid is heated more rapidly than the polymeric wall; and

maintaining a temperature of the processing fluid at or above the second temperature for a process period to process the surface of the microfeature workpiece, a temperature of the wall of the processing chamber being no greater than the temperature of the processing fluid during the process period.

20. (Original) The method of claim 19 wherein the processing fluid comprises an etchant liquid and processing the surface of the microfeature workpiece comprises etching the surface of the microfeature workpiece.

21. (Original) The method of claim 19 wherein an inner surface of the processing chamber comprises a fluoropolymer and the processing fluid comprises an etchant liquid, further comprising contacting the inner surface of the processing chamber with the etchant liquid.

22. (Original) The method of claim 19 further comprising adding the processing fluid to the processing space at an introduction temperature that is below the second temperature.

23. (Original) The method of claim 19 further comprising adding the processing fluid to the processing space at the first temperature that is below the second temperature.

24. (Original) The method of claim 19 wherein the radiation is delivered substantially uniformly across the surface of the microfeature workpiece.

25. (Original) The method of claim 19 wherein the radiation comprises infrared radiation.

26. (Original) The method of claim 19 further comprising enclosing the microfeature workpiece within the interior of the processing chamber.

27. (Original) The method of claim 19 wherein the radiation is substantially the only heat source for heating the processing fluid from the first temperature to the second temperature.

28. (Original) The method of claim 19 wherein processing the surface of the microfeature workpiece yields a resultant fluid, the method further comprising determining at least one chemical property of the microfeature workpiece by chemically analyzing the resultant fluid.

29-48. (Canceled)

49. (New) A method of processing a microfeature workpiece, comprising:

supporting a microfeature workpiece in a processing chamber having a wall constructed from a polymeric material;

contacting the microfeature workpiece with an etchant liquid, the polymeric wall of the processing chamber being substantially non-reactive with the etchant liquid;

increasing a temperature of the etchant liquid more rapidly than a temperature of the polymeric wall by delivering radiation to the etchant liquid from a radiation source and through the polymeric wall of the processing chamber; and

controlling the radiation source to maintain a temperature of the etchant liquid at or above a target process temperature to etch the microfeature workpiece.

50. (New) The method of claim 49 wherein the etchant liquid absorbs more the delivered radiation than the polymeric wall.

51. (New) The method of claim 49 wherein the radiation is delivered substantially uniformly across a surface of the microfeature workpiece.

52. (New) The method of claim 49 wherein the radiation comprises infrared radiation.

53. (New) The method of claim 49 further comprising enclosing the microfeature workpiece within an interior of the processing chamber.

54. (New) The method of claim 49 further comprising raising the temperature of the etchant liquid to or above the target process temperature while a temperature of the polymeric wall of the processing chamber is lower than the target process temperature.

55. (New) The method of claim 54 wherein the processing chamber includes a base constructed from the polymeric material, a temperature of the base of the processing chamber being no greater than the temperature of the etchant liquid when the etchant liquid is at or above the target process temperature.

56. (New) The method of claim 49 wherein etching the surface of the microfeature workpiece yields a resultant etchant, the method further comprising determining at least one chemical property of the microfeature workpiece by chemically analyzing the resultant etchant.